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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/742,128	12/19/2003	Ankur P. Panchbudhe	VRT0117US	5026
60429	7590	01/31/2007	EXAMINER	
CSA LLP			DOAN, DUCT	
4807 SPICEWOOD SPRINGS RD.				
BLDG. 4, SUITE 201			ART UNIT	PAPER NUMBER
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SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/31/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/742,128	PANCHBUDHE ET AL.	
	Examiner	Art Unit	
	Duc T. Doan	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 November 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 27,29-42,44-46,48-50 and 52-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 27,29-42,44-46,48-50,52-54 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____.

DETAILED ACTION

Claims 1-61 have been presented for examination in this application. In response to the last Office Action, claims 1-26,28,43,37,51,55-61 have been cancelled, claims 27,41,42-43,50 were amended. As a result, claims 27,29-42,44-46,48-50,52-54 are now pending in this application.

Claims 27,29-42,44-46,48-50,52-54 are rejected.

Applicant's amendments/remarks filed 11/17/07 have been fully considered with the results as follows,

Examiner withdraws the rejections under U.S.C 101 of claims 50-52,54,

Examiner maintains the rejections under U.S.C. 102 of claims 27,29-30,32-42,44-46,48-50,52-54, and

Examiner maintains the rejections under U.S.C. 103 of claim 31.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 27,29-30,32-42,44-46,48-50,52-54 are rejected under 35 U.S.C. 102 (a) as being anticipated by Miyata et al (US 2003/0225972).

As in claim 27, Miyata describes a method comprising: in response to a request to perform an operation on a first set of locations of a plurality of location in a storage area (Miyata 's Fig 11, paragraphs 87-88 discloses that the controller Fig 1: #131 perform a copy duplicate operation, comprise a series of read write operations to the storage area's data blocks (see Miyata's paragraph 81, lines 6-10 discloses retrieving a data block from disk storage area into cache; corresponding to the claim's operations on locations in storage area); and in response to a request from client computer Fig 1: #11a), and performing the operation upon a given location in the first set of locations of the plurality of locations in the storage area only if the given location is described in the at least one location description of the sieve associated with the operation (Miyata's paragraph 86 discloses only performing a specific operation on the data if the data is described in the attributed, i.e when the corresponding attribute bit has value 1) , wherein the sieve comprises at least one location description and a property identifies each location within the storage area upon which the operation can be perform (Miyata's Fig 2, Fig 4 discloses the

metadata structure (corresponding to the claim's sieve), each file attribute bit Fig 4: #402 represents a file/data block locations in the disk storage device (corresponding to the claim's comprise location storage description), and each file attribute bit identifying the operations (corresponding to the claim's property) that can be performed on the data block, for example, Miyata's paragraph 86 discloses when the file attribute bit is one; the copy operation can be performed on the data block).

As in claim 29, Miyata describes wherein the at least one location description is specified by an application program (Miyata's paragraphs 96-99 describes API and methods for user to specifying the areas to be duplicated).

As in claim 30, Miyata describes wherein the operation is replication (Miyata's column 3, lines 18-21, paragraph 84).

As in claim 32, Miyata describes wherein the at least one location description and the corresponding property describing the type of the operation are designated by a requester (Miyata's paragraphs 96-99 describes API and methods for user to specifying the areas to be duplicated).

As in claims 33-35, Miyata describes obtaining a designation of the operation to be performed (claim 33, paragraph 86-87, Fig 11, the processor #13 obtained the copy "ditto" operation designated by client computer #11); wherein the requester manages data in the storage area (claim 34, Miyata's paragraph 96); wherein the requester performs a management function of a set of management functions for the storage area (claim 35, Miyata's paragraph 95)

As in claims 36, Miyata describes wherein the requester identifies a respective physical location described in the at least one location description (Miyata's paragraphs 96-98 disclose that the client/user identifies respective storage regions for the copy/duplicate operation).

As in claim 37, Miyata describes wherein each location in the second set of locations is specified by a beginning location and a number of contiguous locations starting at the beginning location (Miyata 's column 6, lines 1-3, lines 30-39).

As in claim 38, Miyata describes wherein the at least one location description is designated by a set of indicators, wherein the set of indicators comprises an indicator for each respective location of the plurality of locations Miyata's Fig 4, Fig 2, paragraphs 50-52 describes each attribute bit associated with its corresponding storage location such as a data block), and each indicator of the set of indicators indicates whether the respective location for the indicator is described in the at least location description (Miyata's Fig 4, Fig 2, paragraphs 50-52 describes each attribute bit describing the corresponding operation such as duplication for the corresponding data block).

As in claim 39, Miyata describes obtaining a second set of locations location of a second duplicate operation (Fig 4a: offset 728, extent 472); and performing a second operation (duplicating operation) on the second set of locations after the operation (upstaging data to cache) is performed on the given location (Miyata's Fig 4, Fig 2, paragraphs 50-52 describes each attribute bit describing the corresponding operation such as duplication and cache residence for the corresponding data block);

As in claim 40, Miyata describes wherein the at least one location description and the corresponding property describing the type of the operation are designated by the requester; and

the operation and the second operation are designated by the requester (Miyata's paragraphs 67,98 describes that requester provides the attribute information and the corresponding storage locations).

As in claim 41, Miyata describes wherein a sieve for the storage area comprises the at least one location description and the corresponding property describing the type of operation, and each type of operation in the sieve is performed on the given locations if the sieve is specified (Miyata describes the file system with meta data attributes in which the attributes can be turned on or off to specify an operation such as duplicate for the corresponding data block. Each attribute specifies different operations such as cache residence, duplication (Miyata's Fig 2).

As in claim 42,46 the claim is rejected based on the same rationale as of claim 27.

As in claims 44,48,52 the claims are rejected based on the same rationale as of claim 40.

As in claims 45,53 the claims are rejected based on the same rationale as of claim 33.

As in claim 49, the claim is rejected based on the same rationale as of claim 33.

As in claim 50, the claim is rejected based on the same rationale as of claim 27. Mayata's paragraph 36 further discloses an operating system having a file attribute control program that provides extend functions of the storage control unit when it receives the instruction/ request from the client computer, according to the file attribute that has information for the data block, such as location and the operation which can be performed on the data block.

As in claim 54, it rejected based on the same rationale as of claim 50. Mayata's Fig 1 further discloses a system includes processor (Fig 1: #11a) and computer readable media (Fig 1: #143).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyata et al (US 2003/0225972) as applied in claim 27, and further in view of Krishnamurthy (US 6823436).

As in claim 31, Miyata does not expressly describe the claim's detail of subsets. However, Krishnamurthy's column 4 lines 43-49 describes as follows: obtaining a set of entities, wherein the first set of locations comprises a plurality of subsets of locations (data blocks in an extent), and an entity in the set of entities (an extent) has permission to perform the operation on respective data in at least one of the plurality of subsets of locations (copy data blocks in extents). It would have been obvious to one of ordinary skill in the art at the time of invention to include copy method as suggested by Krishnamurthy in Miyata's system such that data is being copied from the source storage area to the destination area in a small chunk of contiguous blocks of data, and thereby data can be provided to the host from either source drive or target drive much sooner (Krishnamurthy's column 4 lines 13-30).

Response to Arguments

Applicant's arguments in response to the last office action has been fully considered but they are not persuasive. Examiner respectfully traverses Applicant's arguments for the following reasons:

A) Regarding remarks on pages 8-9 for the rejection under U.S.C 101 of claims 50-52,54, Examiner withdraws the rejection.

B) Regarding remarks on pages 9-11 for the rejection under U.S.C 102 of claims 27,29-30,32-42,44-46,48-50,52-54,

I) Applicant generally alleges on page 9 that "operating on a file or directory is quite different than operating on a physical location". However, Applicant fails to point out specifically what the differences are. Examiner respectfully disagree with the above generally alleges statement. Simply because files or directories are stored in the storage area, for example, storing in storage area of disk devices. Data of the files/directories comprises sequences of data blocks being stored in the disks (corresponding to the claim's set of locations in storage area; see Myata's paragraphs 49-51), operation such as copy a file/directory therefore comprises read/write operations to these data blocks of the file/directory on the disks (i.e moving data from one set of locations on the disk to another set of locations on the disks). Fig 11: #1804 specifically discloses the copy operation, for example on the data block (i.e location) that contain metadata information.

II) Applicant argues on page 10, second paragraph, Examiner disagrees with Applicant's characterization of the attribute field "Accordingly, each block attribute represents only a single LBA..". Myata clearly discloses each attribute (Myata's Fig 4: #402) can be implemented to

represent any number of data blocks (one or more LBAs) in a file, see Myata's paragraph 51, lines 5-7). Therefore, Applicant's argument "Accordingly, a given block attribute field clearly does not identify all locations that have the same attributes" does not have nay merit.

Applicant argues that Myata does not teach the claim's sieve, which "identifies the operation, and location description that identifies each location within a storage area upon which the operation (as identified by the property) can be performed. Examiner respectfully disagrees, Myata clearly discloses the attribute includes the property, for example the attribute represents the copy operation on the file/data blocks (see Myata's paragraphs 84-85). The attributes further identify the locations within a storage area upon which the operation (as identified by the property) can be performed (i.e the attribute identifies the file/data blocks LBAs, locations in the disks that being copies).

C) Regarding remarks on page 11 for the rejection under U.S.C 103 of claim 31, the claim is rejected as rationale of the above item B.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 36 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

When responding to the office action, Applicant is advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Doan whose telephone number is 571-272-4171. The examiner can normally be reached on M-F 8:00 AM 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 571-272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

[Handwritten signature]
HYUNG SOUGH
SUPERVISORY PATENT EXAMINER
1-29-07